

# COVID-19 Overview and Infection Prevention and Control Priorities in non-US Healthcare Settings



[cdc.gov/coronavirus](https://cdc.gov/coronavirus)

# Outline

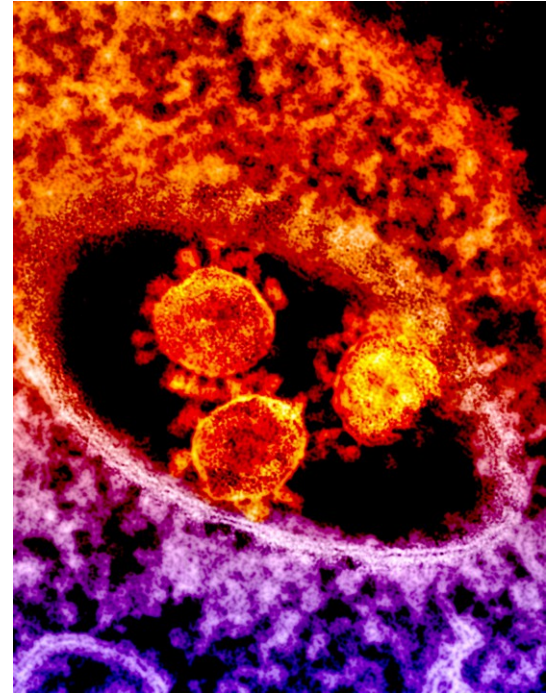
- Coronavirus Background
- Coronavirus Disease 2019 (COVID-19)
  - Emergence of COVID-19
  - Transmission
  - Symptoms
- COVID-19 Prevention and Treatment
- Infection Prevention and Control (IPC) for COVID-19

# Coronavirus Background



# Coronaviruses (CoV)

- Coronaviruses are a large family of viruses that can cause illness in animals or humans
- In humans, several known coronaviruses can cause respiratory infections



Ranging from the common cold to more severe

# Coronavirus Disease 2019 (COVID-19)



# COVID-19: Emergence

- Identified in Wuhan, China in December 2019
- COVID-19 is caused by the virus SARS-CoV-2
- Early in the outbreak, many patients were reported to have a link to a large seafood and live



<https://www.healthpolicy-watch.org/>

# COVID-19: Transmission

- The primary transmission of COVID-19 is from person to person through respiratory droplets
  - Droplets are released when someone sneezes or coughs
  - It can also be spread when you're in close contact with someone who is sick (e.g., shaking hands or talking)



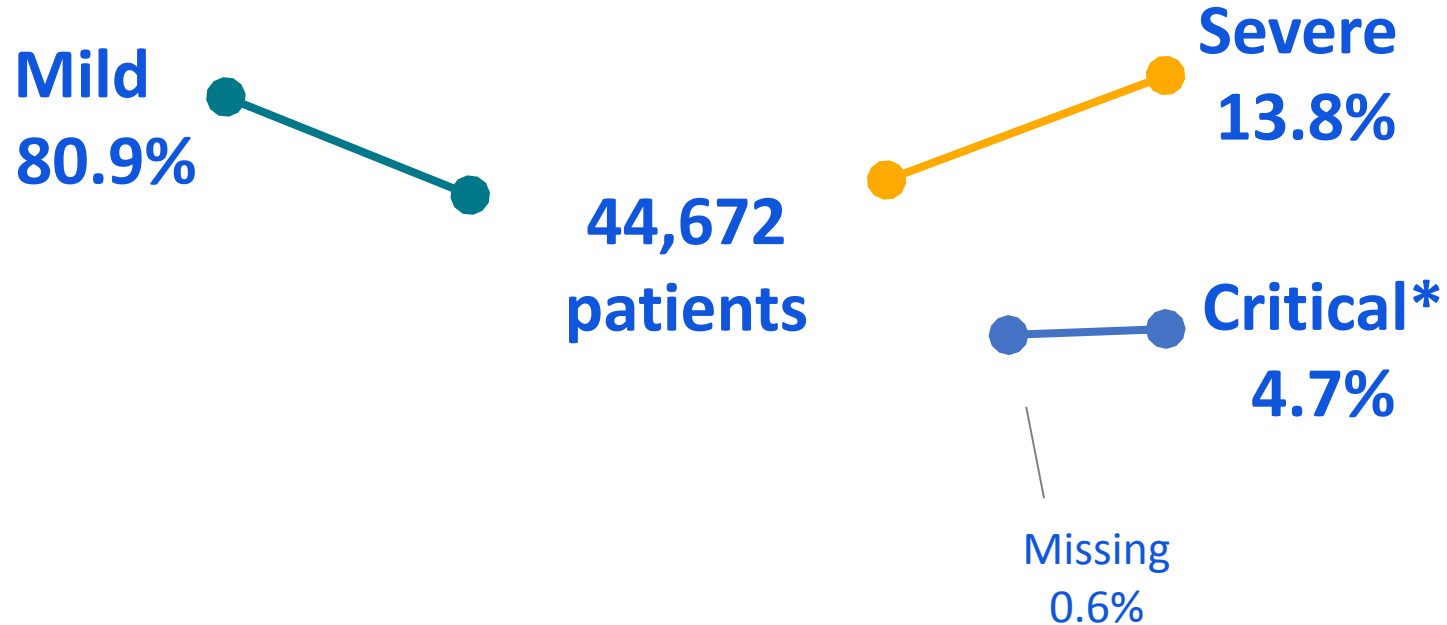
COVID-19 can additionally be

# COVID-19: Symptoms

- Wide range of symptoms reported\*
  - Fever
  - Cough
  - Shortness of breath or difficulty breathing
  - Headache
  - Nasal congestion
  - Muscle pain
  - Sore throat
  - Loss of smell or taste
  - Diarrhea (may be present in some patients)



# COVID-19: Illness Severity - China through 11-Feb-2020



\* 1,023 (49%) deaths among 2,087 critically ill patients



Adapted from Zhang 2020, [China CDC Weekly Report](#); 2(8):113-122.

# COVID-19: People at higher risk for severe illness

- In some cases, people who get COVID-19 can become seriously ill and develop difficulty breathing
  - These severe complications can lead to death
- Older adults (>50 years of age) and those with underlying medical conditions such as those who are immunocompromised or have serious heart problems or chronic lung disease are



# COVID-19 Prevention and Treatment



# COVID-19: Everyday preventative actions

- Avoid touching your eyes, nose, and mouth
- Avoid close contact with people who are sick
  - Remember that people without symptoms can still spread the virus
- Stay at home when you are sick
- Cover your cough or sneeze with a tissue, then dispose of it properly



# COVID-19: Treatment

- Currently, care for patients is primarily supportive:
  - Relieve symptoms
  - Manage respiratory, and other organ, failure
- There are no specific antiviral treatments currently licensed for COVID-19
  - Many treatments are under investigation
    - \* FDA: <https://www.fda.gov/media/137584/download>
  - Remdesivir, which is also an investigational drug.



# Infection Prevention and Control (IPC) for COVID-19



# What is IPC?

- The practice of preventing or stopping the spread of infections during healthcare delivery
  - Hospitals, outpatient clinics, dialysis centers, long-term care facilities, traditional practitioners
- **IPC Goal for COVID-19: To support the maintenance of essential healthcare services by containing and preventing COVID-19**



# COVID-19: IPC Priorities

- Rapid identification of suspect cases
  - Screening/triage at initial healthcare facility encounter and rapid implementation of source control
  - Limiting entry of healthcare workers and/or visitors with suspected or confirmed COVID-19
- Immediate isolation and referral for testing
  - Cohort of patients with suspected or confirmed COVID-19 separately
  - Discontinuing isolation for those clinically improved who are negative by PCR
- Safe clinical management
  - Immediate identification of inpatients and healthcare workers with suspected COVID-19



# Standard and Transmission-Based Precautions

- Standard Precautions
  - Set of practices that apply to care of all patients in all healthcare settings
- Transmission-Based Precautions
  - Set of practices specific for patients with known or suspected infectious agents that require additional control measures to prevent transmission



# Standard Precautions

- Hand hygiene
- Personal protective equipment (PPE)
- Respiratory hygiene and cough etiquette
- Cleaning and disinfection of devices and environmental surfaces



# COVID-19: Transmission Based Precautions

- Wear PPE for contact and droplet precautions\*
  - Unless an aerosol-generating procedure is performed, in which case airborne precautions are needed
- Use disposable or dedicated patient care equipment (e.g., stethoscopes, blood pressure



\* *WHO recommendations*

[https://www.who.int/publications-detail/infection-prevention-and-control-during-health-care-when-novel-coronavirus-\(ncov\)-infection-is-suspected-20200125](https://www.who.int/publications-detail/infection-prevention-and-control-during-health-care-when-novel-coronavirus-(ncov)-infection-is-suspected-20200125)

# COVID-19: Transmission-based precautions

- Use adequately ventilated single rooms (preferable) or dedicated COVID-19 ward rooms
- Avoid transporting COVID-19 patients out of room unless medically necessary
  - Place a mask on COVID-19 suspected or confirmed patients if transport out of a room is medically necessary
  - Healthcare workers should wear appropriate PPE during transport\*



\* [https://www.who.int/publications-detail/rational-use-of-personal-protective-equipment-for-coronavirus-disease-\(covid-19\)-and-considerations-during-severe-shortages](https://www.who.int/publications-detail/rational-use-of-personal-protective-equipment-for-coronavirus-disease-(covid-19)-and-considerations-during-severe-shortages)

# COVID-19: PPE

- Healthcare workers should:
  - Use a medical mask (i.e., at least a surgical/medical mask)
    - ✓ N95 respirator for aerosol-generating procedure
  - Wear eye protection (goggles) or facial protection (face shield)
  - Wear a clean, non-sterile, long-sleeved gown
  - Use gloves
- Healthcare workers should be trained on correct use of PPE, including putting on and taking off PPE



Extended use and re-use of certain PPE items (e.g., mask, gown)  
can be considered if supply shortage

# Aerosol-Generating Procedures

- Endotracheal intubation
- Bronchoscopy
- Non-invasive ventilation
- Tracheostomy
- Manual ventilation before intubation
- Cardiopulmonary resuscitation

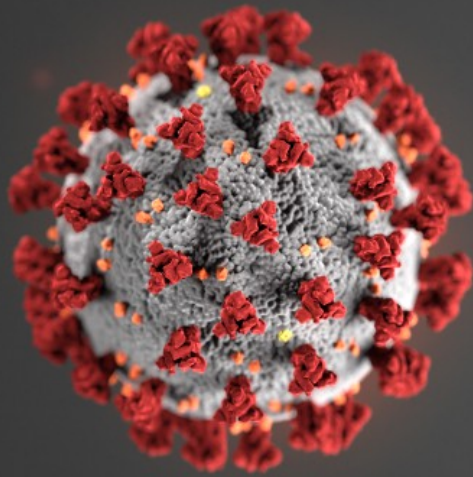
PPE Recommendations for aerosol-generating procedures performed on COVID-19 patients:

- A fitted respirator (N95, FFP2, or equivalent) as opposed to surgical/medical masks
- Gloves
- Gown
- Eye protection (goggles/face shield)



# Infection Prevention and Control Resources for COVID-19 in non-US Healthcare Settings

- Strategic Priority IPC Activities for Containment and
- Triage SOP
- Identification of Healthcare Workers and Inpatient
- Management of Visitors to Healthcare Facilities
- Interim Operational Considerations for Public Heal



For more information, contact CDC  
1-800-CDC-INFO (232-4636)  
TTY: 1-888-232-6348 [www.cdc.gov](http://www.cdc.gov)

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

